

# Operating Strategy

City of Cockburn

March 2020 – February 2030



SPORTS TURF  
TECHNOLOGY

Prepared by Marie Egan

**Sports Turf Technology Pty. Ltd.**

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**ABN 46 102 735 053**

## 1 Administrative requirements

This Operating Strategy applies to the following licences held by the City of Cockburn:

<b>Instrument Numbers</b>	<b>Resource</b>	<b>Water Year</b>	<b>Reporting Date</b>
GWL 49535	Cockburn, Kogalup, Perth – Superficial Swan	1 July – 30 June	30 September
GWL 49545	Perth, City of Cockburn, Perth – Superficial Swan	1 July – 30 June	30 September
GWL 203189	Jandakot, South Lakes, Perth – Superficial Swan	1 July – 30 June	30 September
GWL 203196	Jandakot, Airport, Perth – Superficial Swan	1 July – 30 June	30 September
GWL 203203	Jandakot, Success, Perth – Superficial Swan	1 July – 30 June	30 September
GWL 203204	Jandakot, Banjup, Perth – Superficial Swan	1 July – 30 June	30 September
GWL 203255	Cockburn, Thompsons, Perth – Superficial Swan	1 July – 30 June	30 September

The City of Cockburn holds two other GWLs that are not governed by this Operating Strategy. GWL 159917 is the licence for abstraction via the Port Coogee Groundwater Interception Drain. GWL 200065 is the licence for abstraction for the geothermal heat exchange at the Cockburn ARC. Both of these GWLs have their own Operating Strategies and are not relevant to this document.

This Operating Strategy also applies to any future licences for irrigation of public open space, recreation areas, turf or lawns and gardens held by the City of Cockburn.

This Operating Strategy will take effect from the date of signature and applies until the water licence/s above is/are in a terminal status or the Operating Strategy is amended.

## **2 Person Responsible for Implementing this Operating Strategy**

Name	Anton Lees
Position	Manager Parks & Environment
Contact Number	08 9411 3547
Postal Address	City of Cockburn PO Box 1215 Bibra Lake DC WA 6965

## **3 Intent**

The intent of this Operating Strategy is to formalise the licensee’s commitment to undertake the measurement of their water take and to report this to the Department of Water and Environmental Regulation annually.

## 4 Water Source Description

Table 1: GWL 49535 Kogalup

Bore Name	Park/Reserve Name	Location Coordinates (MGA)		Bore Depth (m) if known	Scheduled Meter Install Date	Meter Details			
		Northing	Easting			Make	Serial number	Installation date	Start Reading 1 Jul 2019
Allamanda	Allamanda						7325040003		10,164
Barrow (Bore Emplacement Court)	Barrow (Bore Emplacement Court)	383257	6449537				1154650015		496,875
Bavich	Bavich	385459	6448290				2020470002		37,718
Beale	Beale						N/A		
Beale 1 (Kent St Old Bore)	Beale 1 (Kent St Old Bore)	384622	6447925				9997400		270,575
Beale 2 (Spearwood Ave)	Beale 2 (Spearwood Ave)	384799	6447645				2074540013		310,671
Beeliar Lakefill (Bore)	Beeliar Lakefill (Bore)	388557	6444082				99971004		1,314,217
Bibra Golf	Bibra Golf	388968	6447814				0935030005		203,719
Bibra Lake Community	Bibra Lake Community						10586200002		11,829
Bibra Lake POS	Bibra Lake POS						2938620008		293,483
Bishop	Bishop	385408	6446367				7325060008		61,661
Blackburn	Blackburn						13173440004		8,723
Blue Bush	Blue Bush								
	Costa*						1699710008		213,133
	Mariposa*								
	Wearn*								
Bourbon POS	Bourbon POS						2338920015		25,143
Boyd Crescent	Boyd Crescent	383200	6450001				2534150004		11,052
Bramley	Bramley						1154630007		19,462
Broadwater	Broadwater	390564	6446893				1009710001		198,806
Catherine Point (Cy O'Connor)	Catherine Point (Cy O'Connor)	382917	6448841				2274540014		64,029
Civic Centre Grounds	Civic Centre Grounds	385168	6447791				91012271		143,437
Coogee Beach	Coogee Beach	383471	6446435				5963190001		102,068
Crown (Mayor Rise)	Crown (Mayor Rise)						9431590001		39,014
Dalmatia Park (Kitj Park)	Dalmatia Park (Kitj Park)						12453590006		70,252
Dalminiac	Dalminiac	384385	6448321				2274540014		146,527
Davilak	Davilak	383990	6449513				90957958		391,248
Davilak Triangle	Davilak Triangle	384486	6449365				2938920007		38,860
	RSL Memorial*						N/A		
Desert Pea	Desert Pea						12667890003		10,368
Diedrich	Diedrich	388560	64446111				0267400015		105,841
	Touchell*								

Bore Name	Park/Reserve Name	Location Coordinates (MGA)		Bore Depth (m) if known	Scheduled Meter Install Date	Meter Details			
		Northing	Easting			Make	Serial number	Installation date	Start Reading 1 Jul 2019
Dubove	Dubove	385951	6448406				99971032		216,934
Duffield	Duffield						10586200005		7,218
Dunraven	Dunraven						10583200008		5,504
Edwards	Edwards	385538	6447018				05631200005		309,644
Eliza Cave (Bibra Lake Skate Park)	Eliza Cave (Bibra Lake Skate Park)						2759220016		16,246
Kooboolong Pk	Kooboolong Pk						11059650001		138,691
	Woodlands Park*						N/A		
Garbin	Garbin						11580570002		12,150
Gage Park	Gage Park (Fmrly Shoreline POS)						11805240004		65,093
	Anchorage Park*						N/A		
	Reinforcement Park*						N/A		
Galipo Park	Galipo Park						12667910001		17,273
Geordie Crt	Geordie Crt						11307670007		2,517
Gerald	Gerald	385613	6448007				2020420002		30,824
Glenmia	Glenmia						72250400009		56,905
Goodchild	Goodchild	385526	6449200				2126470006		400,529
Greenslade	Greenslade						7325040013		16,644
Habitat Park	Habitat Park						N/A		124,494
	Habitat Verge*						2126460018		
Hagan	Hagan	385512	6445651				0505110001		273,934
Hanlon Park	Hanlon Park						2759220011		1,468
Hopbush	Hopbush	389737	6447160				93972358		814,098
Huljich	Huljich						2534150008		13,067
Interim Rd	Interim Rd	386305	6447361				90357931		195,132
Invercauld	Invercauld						2875950011		3,432
Isted	Isted	385019	6449394				3099470011		15,019
Kevin Bowman	Kevin Bowman	384716	6445033				99971095		83,824
Len McTaggart	Len McTaggart						9431580006		60,727
Lopresti	Lopresti						2534150005		38,415
Malabar	Malabar	386939	6448136				91012268		131,201
Manning	Manning						N/A		
Manning Azelia	Manning Azelia	384205	6448320				15548990009		25,577
Manning Glennister	Manning Glennister	384260	6448797				10902590006		223,610
	Lucius*						N/A		
Manning Janson	Manning Janson	383976	6448951				13385910015		46,175
Marshwood	Marshwood						1058620003		7,462
McFaull	McFaull						N/A		

Bore Name	Park/Reserve Name	Location Coordinates (MGA)		Bore Depth (m) if known	Scheduled Meter Install Date	Meter Details			
		Northing	Easting			Make	Serial number	Installation date	Start Reading 1 Jul 2019
McFaul1 1	McFaul1 1						9782050010		158,115
McFaul1 2	McFaul1 2	385759	6447731				1691180011		288,705
Meares	Meares						2938920012		1,642
Meller	Meller						2938620006		379,355
Mervyn Bond	Mervyn Bond	384927	6445401				1563120001		206,389
Milgun	Milgun	388483	6445114				9782050003		198,086
Mills St Playground	Mills St Playground						2876960006		4,138
Minori	Minori						5963170009		22,998
Nicholson	Nicholson	388687	6445849				91003317		72,325
Nola Waters	Nola Waters						113076700008		3,302
Olive Tree Park	Olive Tree Park						12220730009		19,002
Operations Centre	Operations Centre	386961	6446166				12224180008		19,845
Owgan	Owgan	388650	6443898				90948039		195,208
	Hakea*								
Peace Park	Peace Park						14097140003		2,711
Peregrine	Peregrine	388201	6443669				20200380001		157,173
Perena Rocchi	Perena Rocchi	388744	6445649				N/A		
Perena Rocchi Bore 1	Perena Rocchi Bore 1						1152057001		27,168
Perena Rocchi Bore 2	Perena Rocchi Bore 2						11307670002		60,970
Phoenix Rd Median	Phoenix Rd Median	386395	6448443				0768740001		217,423
Phoenix Rise	Phoenix Rise						2876920009		84,982
Picotee / Duchart	Picotee / Duchart	384211	6446343				16672640002		71,889
Poole	Poole	384587	6445522				7325060006		180,995
Powell	Powell	383676	6445823				4184220013		163,896
Radonich	Radonich	386210	6444536				90021678		477,023
Ravello (Prev Shallcross)	Ravello (Prev Shallcross)						13173450004		35,887
Riverina Reserve (Bindjar Reserve)	Riverina Reserve (Bindjar Reserve)	385189	6444189				1154590004		58,162
Ronsard	Ronsard						7325040004		81,425
Rotary Lookout	Rotary Lookout						7325040005		19,421
Santich 1	Santich						1009710005		342,185
Santich 2	Santich						1563150006		343,319
Santorini Park	Santorini Park						N/A		
Smart	Smart	385519	6445998				13385910005		56,564
South Coogee	South Coogee						5963190007		168,206
Southwell POS	Southwell POS	385981	6448956				11307520009		32,708
Spinnaker Heights	Spinnaker Heights						2938920001		27,918
SS Amberley/Old	SS Amberley/Old						2755203335		1,420

Bore Name	Park/Reserve Name	Location Coordinates (MGA)		Bore Depth (m) if known	Scheduled Meter Install Date	Meter Details			
		Northing	Easting			Make	Serial number	Installation date	Start Reading 1 Jul 2019
SS Cockburn/Mayor	SS Cockburn/Mayor						10586200004		5,229
SS Deller Dr Entry	SS Deller Dr Entry						1053620009		7,637
SS Osprey Ave	SS Osprey Ave						10585870014		30,351
SS Osprey/North Lake	SS Osprey/North Lake						12220700015		6,415
SS Rockingham/Mayor	SS Rockingham/Mayor						11307670003		8,611
SS Rockingham/Stock	SS Rockingham/Stock						12220700009		4,419
SS Spearwood Ave - Barrington - Sudlow	SS Spearwood Ave - Barrington - Sudlow						9789630005		47,256
SS Spearwood Ave – Stock to Bullfinch	SS Spearwood Ave – Stock to Bullfinch	386417	6447710				0819410001		58,150
SS Spearwood Ave – Wellard to Stock	SS Spearwood Ave – Wellard to Stock	386918	6447632				0121150001		39,154
St Pauls The Glade	St Pauls The Glade	386889	6448846				99994408		201,564
Syndicate Link (Albion Pk)	Syndicate Link (Albion Pk)						9789630003		79,972
Systema	Systema						3098470012		13,008
Visko	Visko	386894	6444894				13697510002		52,749
Warthwyke	Warthwyke						2274530005		56,008
Waterbank	Waterbank						2534150007		14,441
Watson	Watson	385258	6447024				2126470001		164,561
Wells Rd POS	Wells Rd POS						1154630012		12,242

\* Sites in blue text are sites irrigated by the bore sited at the site in the row above it in black text.

Table 2: GWL 49545 City of Cockburn

Bore Name	Park/Reserve Name	Location Coordinates (MGA)		Bore Depth (m) if known	Scheduled Meter Install Date	Meter Details			
		Northing	Easting			Make	Serial number	Installation date	Start Reading 1 Jul 2019
Bakers Square Netball Grounds	Bakers Square Netball Grounds						2534150005		63,095
Bassett	Bassett	388868	6449768				2759220010		30,856
Brandwood	Brandwood	392067	6449655				0121150007		96,386
Classon	Classon						7325040008		6,401
Coolbellup Community	Coolbellup Community						2020420004		33,836
	Coolbellup The Assembly*						N/A		
De Marchi	De Marchi						2938920005		31,992
Dixon	Dixon						11307520001		37,792
Doherty	Doherty						7325040001		27,932
Enright	Enright						1154580003		441,910
Fortini	Fortini	384899	6449681				2534150001		17,717
Hargreaves Park	Hargreaves Park						11580580011		107,398
Heatherlea	Heatherlea	392652	6449601				5963190010		52,043
Hobbs	Hobbs						3099480009		52,256
Jakob (Senior Citizens)	Jakob (Senior Citizens)						5963170002		30,929
Jarvis	Jarvis	386683	6450335				1158058001		72,294
Len Packham	Len Packham						9782050007		253,746
Mamilius	Mamilius						10585870009		23,091
Monaco	Monaco	388519	6450278				0267400006		24,604
Murdoch Chase	Murdoch Chase	390958	6449850				1628066009		1,810
Old Canteen	Old Canteen						10585870010		34,529
Peridita Park	Peridita Park						12220700006		5,073
Rinaldo	Rinaldo	387885	6449580				1145610005		256,861
Robb	Robb						10586200010		31,758
Sawl Sump	Sawl Sump						7325040020		12,520
SS Coolbellup – Waverly to Cordelia	SS Coolbellup – Waverly to Cordelia						1691110014		46,538
SS Council/Stock	SS Council/Stock						3325040019		1,261
SS Farrington Rd Verge	SS Farrington Rd Verge	390502	6450096				0768740003		54,981
SS Forrest/Coolbellup	SS Forrest/Coolbellup						11580570004		6,506
SS Redmond Rd Sump	SS Redmond Rd Sump						11307670001		4,765
SS Winterfold/Coolbellup	SS Winterfold/Coolbellup						2875950009		5,514
Tempest	Tempest	387357	6449563				0768740008		384,186
The Playground Coolbellup	The Playground Coolbellup						11805590001		37,637
Wheeler Rd POS	Wheeler Rd POS						2938920004		57,113

\* Sites in blue text are sites irrigated by the bore sited at the site in the row above it in black text.



Table 3: GWL 203189 South Lakes

Bore Name	Park/Reserve Name	Location Coordinates (MGA)		Bore Depth (m) if known	Scheduled Meter Install Date	Meter Details			
		Northing	Easting			Make	Serial number	Installation date	Start Reading
GWL 177276 <sup>^</sup>	Jubilee/Grande								
GWL 203256 <sup>^</sup>	Road reserve Jandakot/Cockburn Central/Treeby								
Alabaster / Michigan	Alabaster / Michigan	391689	6444370				1699710007		350,116
Anning	Anning	390767	6445882				99970993		717,280
Apara Court	Apara Court						13226168		1,303
Bloodwood	Bloodwood	391383	6447788				909464907		18,980
Bunker Gardens	Bunker Gardens						2877690007		40,911
Delaronde Park (Lakeside)	Delaronde Park (Lakeside)						1180555900006		65,241
FESA	FESA						7325040011		14,196
Koojarra / Berrigan	Koojarra / Berrigan	390982	6446644				1154590002		24,411
Lakelands Oval	Lakelands Oval	390927	6447035				1009710001		95,810
Lakeridge	Lakeridge	391030	6444839				90927330		98,194
Lucken	Lucken	390767	6447262				99994413		97,112
Ramsay	Ramsay	391267	6448883				99981700		288,342
SS North Lake Road (Hammond Rd Nth to Midgegooroo Ave)	SS North Lake Road (Hammond Rd Nth to Midgegooroo Ave)						12220740002		17,932
Sycamore	Sycamore						110380004		114,929
Transmission	Transmission	390703	6447140				99972360		513,836
Wentworth Parade (Levens Crt bore)	Wentworth Parade (Levens Crt bore)	392061	6443574				16972940006		35,545
	Denise Oates*						N/A		
Wineberry	Wineberry	391115	6447724				90946495		2,077
Youth Centre	Youth Centre	391876	6444521				080345190		22,817

<sup>^</sup> Sites in red text are sites previously issued with an individual GWL and will be amalgamated into the main GWL in this process.

\* Sites in blue text are sites irrigated by the bore sited at the site in the row above it in black text.

Table 4: GWL 203196 Airport

Bore Name	Park/Reserve Name	Location Coordinates (MGA)		Bore Depth (m) if known	Scheduled Meter Install Date	Meter Details			
		Northing	Easting			Make	Serial number	Installation date	Start Reading
<b>GWL 202853^</b>	<b>Treeby</b>								
Dean	Dean	392060	6447969				99994406		49,127
Hartwell POS	Hartwell POS						13226180		094
Prinsep	Prinsep						155120003		67,088
SS Bonville	SS Bonville						11307670006		4,598
SS Turnbury/Berrigan	SS Turnbury/Berrigan						2759220013		5,508
SS Turtle Point Cove	SS Turtle Point Cove						10586200007		7,000
Turnbury Park	Turnbury Park						10586200001		23,229
Yarra Vista	Yarra Vista						4184220045		125,867

^ Sties in red text are sites previously issued with an individual GWL and will be amalgamated into the main GWL in this process.

Table 5: GWL 203203 Success

Bore Name	Park/Reserve Name	Location Coordinates (MGA)		Bore Depth (m) if known	Scheduled Meter Install Date	Meter Details			
		Northing	Easting			Make	Serial number	Installation date	Start Reading
Atwell Community Centre	Atwell Community Centre		393169	6443787				99990089	
Atwell Reserve	Atwell Reserve		393031	6443252				80929695	
	Kennack*								
Aubin Grove Reserve	Aubin Grove Reserve		392992	6439909				2419630001	
Balboa	Balboa		392710	6440240				1154620002	
Blue Boy	Blue Boy		392879	6440677				0768740006	
	Pearl Flower*							N/A	
	Tangle*							N/A	
Bologna Park	Bologna Park		392454	6440531				2534150003	
Botany	Botany							1691130014	
Brenchley (Now Lydon Park)	Brenchley (Now Lydon Park)							10566200006	
Camden POS	Camden POS		392731	6439934				2274820006	
Christmas Tree Park	Christmas Tree Park		391692	6441125				91005209	
Colorado	Colorado							2274530007	
	Grove Reserve*							N/A	
Duggan	Duggan		391315	6441071				267400007	
Durango Turn (The Walk)	Durango Turn (The Walk)		392491	6439547				1691110009	
Evelyn Massey	Evelyn Massey		391451	6441526				768740005	
	Grasstree*							N/A	
Freshwater Reserve	Freshwater Reserve							10320610001	
Gaebler (Monticola Gdns)	Gaebler (Monticola Gdns)							9086390002	
Gandossi	Gandossi		391114	6443848				1671150002	
Gibbs	Gibbs		393425	6441570				2274530010	
	Flourish*							N/A	
Hanlon	Hanlon		392210	6443621				274480003	
Harmony Park Bore 1	Harmony Park Bore 1		393094	6442162				KM3-08-02-2962	
Harmony Park Bore 2	Harmony Park Bore 2		393129	6441989				2938950008	
	Chorus*							N/A	
	Congenial*							N/A	
	Goodwill*							N/A	
	Kinship*							N/A	
	Tranquil Pk*							N/A	
Harmony Primary School Oval	Harmony Primary School Oval		393008	6442109				0766740007	
Horsehire	Horsehire		390897	6442520				1830910005	
Jan Hammond	Jan Hammond		391370	6442936				91003306	

Magnolia Gardens (Now Beaumont)	Magnolia Gardens (Now Beaumont)		3922069	6442576			507910002	
Marquis North	Marquis North						2759220009	
	Marquis East*						N/A	
Mosedale	Mosedale						9782050005	
GWL 181250^	Observatory						1830910014	
Pipeline	Pipeline		3929722	6443492			90021688	
Princeton Circuit	Princeton Circuit						1691110004	
Purslane	Purslane		390985	6441317			819400002	
Radiata POS	Radiata POS						1145610006	
	Edulis*						N/A	
Reeves	Reeves		392265	6443444			14793530005	
	Richmond*						N/A	
SS Ashendon-Russel	SS Ashendon-Russel		391449	6441302			274480002	
SS Freshwater Entry	SS Freshwater Entry						14-80089158	
Starbush	Starbush		390944	6442261			2321310006	
Stiener	Stiener		391491	6443441			99982083	
Tapper Reserve	Tapper Reserve						5963210002	
Teramo Park	Teramo Park						13173450009	
Tozer	Tozer		393148	6442957			12916240009	
Versailles	Versailles						1699710010	
GWL 203207^	Voyageurs Park						13386190002	
Waterbuttons (The Edge)	Waterbuttons (The Edge)						1154570003	
Weetman	Weetman						10271530066	
	Atkins*							
	Irvine*							
	Nelson*							
	Piesley*							
	Seventy Parks*							
	Inverson Blvd*							
Wentworth POS	Wentworth POS		392037	6442156			935030003	
	Bluesquill*						N/A	
	Milkwort*						N/A	

\* Sites in blue text are sites irrigated by the bore sited at the site in the row above it in black text.

^ Sites in red text are sites previously issued with an individual GWL and will be amalgamated into the main GWL in this process.

**Table 6: GWL 203204 Banjup**

Bore Name	Park/Reserve Name	Location Coordinates (MGA)		Bore Depth (m) if known	Scheduled Meter Install Date	Meter Details			
		Northing	Easting			Make	Serial number	Installation date	Start Reading
Banjup Community Centre	Banjup Community Centre						11580570003		4,187
Banjup Fire Station	Banjup Fire Station						12220700014		2,568
Banjup Trotting Track	Banjup Trotting Track						11580580001		22,956
Kurrajong Reserve	Kurrajong Reserve	393249	6442643				0121150002		80,366

**Table 7: GWL 203205 Success – Hammond Sports Complex**

Bore Name	Park/Reserve Name	Location Coordinates (MGA)		Bore Depth (m) if known	Scheduled Meter Install Date	Meter Details			
		Northing	Easting			Make	Serial number	Installation date	Start Reading
Hammond Rd Sports Bore 1	Hammond Rd Sports Bore 1						4184200009		133,763
Hammond Rd Sports Bore 2	Hammond Rd Sports Bore 2						418200010		195,937
Hammond Rd Sports Bore 3	Hammond Rd Sports Bore 3						4184200008		120,956
Hammond Rd Sports Bore 4	Hammond Rd Sports Bore 4						2938950003		166,053

**Table 8: GWL 203255 Thompsons**

Bore Name	Park/Reserve Name	Location Coordinates (MGA)		Bore Depth (m) if known	Scheduled Meter Install Date	Meter Details			
		Northing	Easting			Make	Serial number	Installation date	Start Reading
GWL 181306 <sup>^</sup>	Terano								
Henderson Landfill Entry Bore 1	Henderson Landfill Entry Bore 1						10081610001		19,878
Henderson Landfill Bore 2	Henderson Landfill Bore 2						11580580003		142,453

<sup>^</sup> Sites in red text are sites previously issued with an individual GWL and will be amalgamated into the main GWL in this process.

## 5 Commitments

The licensee will comply with the following commitments:

1. The licensee must ensure that installed meter(s) accuracy is maintained to within plus or minus 5% of the volume metered in field conditions.
2. The licensee must notify the Department within 7 days of detecting a malfunction of the meter.
3. The licensee must record for each of their licenses the total annual abstraction volume for the water year via the “Water Online Portal” within 30 days after the relevant water year.
4. The licensee must record the readings from each meter required under the licence at the end of each month.
5. The licensee must provide a copy of the meter readings recorded within 90 days of the relevant water year.
6. The licensee shall advise the Department within 90 days of installation of a meter with the following information:
  - a. Description of location or coordinates
  - b. Date meter installed
  - c. Meter reading at time of installation
  - d. Make, size, type and serial number of the meter
  - e. Photograph of the meter after installation
7. The licensee shall update and submit the *Water Source Description* table for any meter that was removed and replaced during the water year within 90 days after the end of the relevant water year.
8. The licensee is committed to its Water Efficiency Plan target to scale back abstraction by 10% to 6,750 kL per ha per annum by 2020.
9. The licensee is to provide pH, EC, salinity (mg/L TDS (grav)) and water level readings taken at the end and beginning of the abstraction season for the sites outlined in Table 9. This information will be forwarded to the Department’s regional office [peel@dwer.wa.gov.au](mailto:peel@dwer.wa.gov.au) quoting the licence numbers within 90 days of the relevant water year.

**Table 9: Sites for biannual pH, EC, salinity and water level monitoring.**

<b>Bore</b>	<b>Groundwater Subarea</b>
Kurrajong Reserve	Banjup
Kevin Bowman	Kogalup
Bibra Lake Picnic Area	Kogalup
Waterbuttons Park	Success
Anning Park	South Lake

10. The licensee is to provide the monitoring data outlined in Table 10 at the following Manning Park locations to monitor apparent salt water intrusion:

- Manning Azealia Bore
- Manning Glenister Bore
- Manning Janson Bore

This information will be forwarded to the Department's regional office

[peel@dwer.wa.gov.au](mailto:peel@dwer.wa.gov.au) quoting the licence number within 90 days of the relevant water year.

**Table 10: Monitoring program for Manning Park bores.**

<b>Parameters to measure</b>	<b>Frequency</b>
Water levels	Monthly
pH, EC, TDS (grav)	Monthly
Comprehensive analysis: <ul style="list-style-type: none"> <li>• Ca, Mg, Na, K, Cl, SO<sub>4</sub>, Si</li> <li>• NO<sub>3</sub>, NH<sub>3</sub>, Tot N, PO<sub>4</sub>, To tP</li> <li>• CO<sub>3</sub>, HCO<sub>3</sub>, Tot Hardness, Tot Alkalinity</li> <li>• Al, Fe, Mn</li> </ul>	Biannually – beginning and end of irrigation season

## 6 Agreement

I understand that the commitments given in the attached Operating Strategy will be a condition of as associated water licence if approved and that a breach of a commitment of any licence condition may be and infringement of the *Rights in Water and Irrigation Act 1914*.

Person legally responsible for the water licence(s):

Signed.....

Date.....

Printed name.....

Approved by delegated authority of Department of Water and Environmental Regulation:

Signed.....

Date.....

Printed name.....